

Appl No.: 10/623,227

Reply to Office Action mailed August 01, 2007

Atty. Dkt. No:  
UCF-273DIV.A

## SUBSTITUTE RESPONSE

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims****Claims 1 – 36 (Canceled).**

**Claim 37 (Currently Amended).** Carbon particles having surface filaments, comprising in combination:

a plurality of carbon filaments that are approximately one micron in mean diameter, the carbon filaments produced solely from thermocatalytic decomposition of hydrocarbon fuel in the presence of carbon black catalyst;

a structure of loose curved elongated worm shaped filaments, with a portion of the structure being substantially hollow, and each of the loose curved elongated worm shaped filaments being substantially [off] tubular, with longitudinal uniformity and graphitic structure; and

a hydrophobic property of oil film adsorption from a surface of water.

**Claim 38 (Canceled).**

**Claim 39 (Previously Presented).** The method of producing carbon particles having surface filaments of about one micron mean diameter, a structure of loose curved elongated worm shaped filaments, with a hollow portion, and each of the filaments having a tubular, longitudinal uniformity, of graphitic structure, consisting of:

a (1) passing electrical current through catalytic material that consists solely of a carbon-based material and;

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a (2) heating the catalytic material consisting solely of a carbon-based material to about 850°C to about 1200°C;

b) passing a stream of hydrocarbon fuel through the catalytic material consisting solely of a carbon-based material with production of hydrogen-rich gas and carbon with filamentary surface deposited on the surface of the catalytic material; and

c) recovering carbon particles with a filamentary surface, wherein the carbon particles have surface filaments of about one micron mean diameter in a structure of loose curved elongated worm shaped filaments, with a hollow portion, and each of the filaments having a tubular, longitudinal uniformity, of graphitic structure[].

**Claim 40 (Canceled).**

**Claims 41 – 43 (Canceled).**

**Claim 44 (Previously Presented).** The carbon particles of claim 37, wherein the plurality of carbon filaments are produced solely in the presence of carbon-based catalyst materials.

**Claim 45 (Canceled).**

**Claim 46 (Previously Presented).** The carbon particles of claim 44, wherein the carbon based materials are selected solely from carbon black (CB).

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**Claim 47 (Previously Presented).** The carbon particles of claim 44, wherein the plurality of carbon filaments form a loose, curved, elongated worm shaped structure.

**Claim 48 (Previously Presented).** The carbon particles of claim 47, wherein the structure consists of loose, curved, elongated worm shaped filaments, and wherein a portion of the filaments is hollow, tubular and longitudinally uniform.

**Claims 49-50 (Canceled).**

**Claim 51 (Previously Presented).** The carbon particles of claim 48, wherein the hydrophobic property includes:

a particle structure that functions as a sponge and readily adsorbs oil from a water surface.

**Claims 52 – 54 (Canceled).**

**Claim 55 (Twice Previously Presented).** The method of claim 39, wherein the catalytic material is solely the carbon black.

**Claim 56 (Previously Presented).** The method of claim 39, wherein the catalytic material consists of: solely activated charcoal.

**Claims 57 – 61 (Canceled).**